

Faculty of Engineering and Technology Newsletter

First issue



This Newsletter is published quarterly by the Faculty of Engineering and
Technology at Al-Zaytoonah University of Jordan

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Spring Issue, 2018

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Spring Issue, 2018



Dean's Message

It is my great pleasure to welcome you to the first edition of the “**Faculty of Engineering and Technology Newsletter**” of the Faculty of Engineering and Technology (FET) at Al-Zaytoonah University of Jordan. Sustaining one of the best engineering and technology faculties in the country is both energizing and rewarding, and I am delighted to share our progress with you. FET continues to grow in quality, numbers and in reputation. Our international student’s enrollment has increased to almost 30% percent in the past two years.

With the eagerness of our extraordinary faculty members who have a dramatic impact on our curriculum and engineering and technology programs, all our programs (civil and infrastructure engineering, mechanical engineering, electrical engineering/communication and computer, electrical engineering/power and control and alternative energy technology) are preparing to receive ABET accreditation from the associated commissions of the Accreditation Board for Engineering and Technology (ABET), the recognized accreditation body for college and university programs in engineering, applied science, computing, and technology.

We have launched the “Alternative Energy Technology” program in January 2017. The program is an applied major focused on the technological fields in alternative energy developments with about %50 of its credit hours are practical. Our industry partnership activities is also growing. Three of our capstone design projects are now sponsored, giving our students a unique opportunity to work closely with industry on realistic projects. We find that by combining dedicated faculty with a compelling curriculum, our industry partners not only want to work with the students on projects, but they are hiring them directly from the project teams.

Lately, FET engineering programs have been accredited by the Federation of Arab Engineers (FAE) as an assurance of our program competencies nationally and regionally. We are also proud that our laboratories are update to date, equipped with modern tools to bridge the gap between academia and industry.

In this issue, we highlight innovative work conducted by our faculty, students and alumni. **Together we succeed**, is our motto at the faculty of engineering and technology.

Vice President and Dean of Engineering and Technology
Prof. Wejdan Abu Elhaija



Capstone Design Projects Day

FET has organized a special day to discuss students' capstone design projects on Saturday, May 12th 2018. Over 100 students from Civil and Infrastructure Engineering, Mechanical Engineering and Electrical Engineering departments discussed their projects. The discussion started at 9:00 AM.

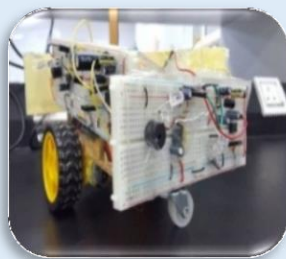
- The following capstone design projects were discussed at the Electrical Engineering Department:

- **Project #1:**

- Project Title: Car Parking Guard Circuit Using Infrared Sensor.
 - Supervisor name: Dr. Saleh Al-Jazzar.
 - Student name: Ahmad AlSusi.
 - Project Abstract: The project consists of a car that can avoid obstacles using an infrared sensor, in the project, the circuit has been tested in various environments, also it has been tested on different types and number of obstacles.

- **Project #2:**

- Project Title: Smart Pill Box.
- Supervisor name: Dr. Saleh Al-Jazzar.
- Student name: Ammar AlSharif and Mohammad AlAhmad.
- Project Abstract: The project alerts the patient to take his medicine on time by sound and flash light on the medicine time, then gives him the correct pills and correct dose automatically.





Capstone Design Projects Day



Design
Projects
Day

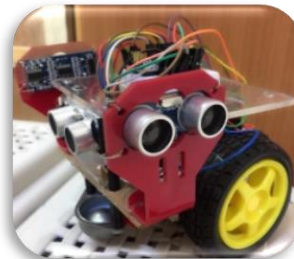
Project #3:

- Project Title: Design and Implementation of Smart DotMatrix Teleprinter, Box.
- Supervisor name: Dr. Mohammad Masuod.
- Student name: Mohammad Allaham and Hashem Rashed.
- Project Abstract: The project uses an artificial intelligence algorithm to find the important messages and then print these important messages using the DotMatrix printing style.

Project #4:

- Project Title: Design of Maze Solver Rover Utilizing Dynamic programming Algorithm.
- Supervisor name: Dr. Mohammad Masuod.
- Student name: Layla Thweib and Hamza Msallam.
- Project Abstract: The project contain a car that can solve any maze dynamically, such that you gave the car the final destination and it reach it using dynamic algorithm.

Design
Projects
Day





Design Projects Day

The following capstone design projects were discussed at the Mechanical Engineering Department:

Project #1:

- Project Title: VRF technology refrigeration industries.
- Supervisor name: Dr. Nabeel Abu Shaban.
- Student's names: Emad Haseeba, Yousef Salah, Ahmad Salem and Jehad Al Kharraz.
- Project Abstract: The project aims to investigate energy saving for refrigeration systems by using DC compressor and electronic expansion valve.

Project #2:

- Project Title: Robotic Solar Panel Cleaning System.
- Supervisor name: Dr. Ahmad Manasrah.
- Student's names: Ahmad Hajeer, Mahmoud Hassan and Mahmoud Abo Msallam.
- Project Abstract: The project aims to design and build a battery powered mobile robot that cleans solar panels.

Design Projects Day





Capstone Design Projects Day



Design Projects Day

Project #3:

- Project Title: Solar Panel Cleaning System.
- Supervisor name: Dr. Ahmad Manasrah.
- Student's names: Ibrahim Alkhawaja, Bashar Al Qayda, Moaiad Namrouti and Atallah Albadawi.
- Project Abstract: The project aims to design and build a cleaning system for solar panels that moves on the panels to clean them using water or other cleaning solvents.

Project #5:

- Project Title: Brackish water desalination by utilizing solar energy.
- Supervisor name: Dr. Nabeel Abu Shaban.
- Student name: Hani Othman, Showkat AL-Qennah, Suhiab Aldmour and Mahmoud Nabhan.
- Project Abstract: The project aim to design of a practical system depends on the solar energy to extract distilled water suitable for drinking by solar energy using pipes of the air vacuum

Project #4:

- Project Title: Developing design of a Buoyant Air Turbine.
- Supervisor name: Dr. Malik Al-Amayreh.
- Student name: Mohammad Nael, Abed Al-Mohsen Saleh, Amjad Abu Dayah, Hamed Al-bayari & Mohammad Jweihan.
- Project Abstract: The project aims to designing an efficient wind turbine by placing the turbine inside a nozzle shape wind tunnel. And finding the best suited position for a wind turbine.





Capstone Design Projects Day

Design Projects Day

The following capstone design projects were discussed at the Civil and Infrastructure Engineering Department:

Project #1:

- Project Title: Students dormitory project.
 - Supervisors' names: Dr.Rana Al-Hourani, Dr.Hashem Al-Masaeid and Dr.Fawzi Ghargheer.
 - Student's names: Ahmad Al-zunbo, Jamal Hussien, Basheer Ibrahim, Mohammad Abu Tineh, Mohammad Abu Lehia, Tareq Awwad, Mohammed Barakat, Magd Azem, Abdalrhman Al-Smadi, Mohammed Jazbeh, Rama Al-Tarawneh, Ammar Yaser, Mohammed Sarrar, Abdullah Qandeel, Ammar Al-Kayyali and Mohammed Hamdan.
- Project Abstract: The 16 student distributed over the following five study areas of civil engineering: structural, environmental, geotechnical, hydraulic, and transportation applications. The aim of this project is to design student's dormitory consisting of living units, service buildings (library building, dry-clean building and restaurant building), off-street parking, driveways, landscaped study areas, and storm water detention system, incorporate some of green building ideas such as collection and reuse of grey water and storm water runoff

Design Projects Day





Capstone Design Projects Day

Project #2:

- Project Title: Analysis and design of multi-story reinforced concrete building.
- Supervisors' names: Dr. Raed Abanda, Dr. Hesham Ahmad and Dr. Mousa Bani Baker.
- Student's names: Mohammed Alyateem, Mohammed Alhunaiti, Mohammed Alhawari, Abdalkarim AbdAljawad, Ammar Badwan, Zaid Abu Al-Afia, Almotasem Shembesh, Yazeed Hawasheen, Alaa Saeed, Mohammed Suleiman, Abdallah Marie, Ahmad Marie, Mohammed Altayeh, Mahmoudad abu iwaid and Basel Hamdan.
- Project Abstract: The purpose of this Major Qualifying Project is to prepare a structural redesign of slabs, beams and columns, by using various structural methods and prepare a survey of quantities for slabs to compare the estimated cost of the different methods. Another aim of the project is to prepare a management time schedule plan for the building to reduce the time required for project completion.

Design Projects Day



Civil and Infrastructure Engineering



Capstone Design Projects Day

Project #3:

- Project Title: Multi-Disciplinary Analysis and Design of Faculty of Architecture and Design Building in Al-Zaytoonah private of Jordan Campus.
- Supervisors' names: Dr.Arkam Zeki, Dr.Akram Suleiman and Eng.Mustafa Qtaishat.
- Student's names: Abdulrahman Quteishat, Ahmad Ghnaim, Ahmad Mousa, Ali Sami, Asad Hassouneh, Ashraf Al-Hourani, Ayman Abu-Hammour, Ibrahim Al-Aidi, Mohammad Yassen, Momen Irzeqat, Motaz Barri, Omar Al-Qudsi, Rami Abu-Jazar, Yara Jammany and Zaid El-Alawneh.

Design Projects Day

- Project Abstract: The goals of the project are to make a multi-disciplinary design including: Land surveying, structural design, highway design, highway maintenance, parking facility, soil testing, quantity surveying, time management, landscaping and irrigation system to the proposed building proportion referring to the standards and recommendations of the codes used in the design.





Capstone Design Projects Day

Project #4:

- Project Title: Design and planning of a structural building and the irrigational water resources system.
- Supervisors' names: Dr. Zaydoun AbuSalem, Eng. Duha Shehadeh and Eng. Mohammad Sehwal.
- Student's names: Ahed Abu-Ali, Ahmad Adeeb, Mohammad Al-Qawasmi, Mohammad Al-Samhouri, Abdulrahman Kokash, Ahmad Hijazi, Waseem Al-Masri, Mohammad Manna, Mahmood Amro, Mustafa Abu-Dari, Ashraf Zaatreh, Zakareya Al-Awadi Shade Hammad, Qusai Mansi, Ayman Al-Kaharabsheh and Saleh Zeiadeh.
- Project Abstract: This project is the design of a reinforced concrete residential building complex. The goals of the project are to design an affordable building complex. The complex consists of six buildings with eight apartment units in each building with a total of 48 housing units. The project includes off-street parking along with ingress and egress roadways, reuse of greywater and an irrigation water resource system.



Project #5:

- Project Title: Design and planning of a structural building and the irrigational system to serve the green surrounding areas.
- Supervisors' names: Eng. Mustafa Qtaishat, Eng. Duha Shehadeh and Eng. Mohammad Sehwal.
- Student's names: Abdullah Abounozha, Ahmad Al Hrou, Alaa Al Fasatlah, Amal Al Mheirat, Ayman Al-Fasfous, Fadwa Rayan, Mahmoud Azaizeh, Mahmoud Odeh, Marah Salameh, Mohamad Asha, Mohammed Rafat, Abdulrahman, Osama Al-Zabet, Saif-Al-Deen Zaytoun, Yazan Abu-Leil, Jehad AlShalabi and Zaid Al-Taib.
- Project Abstract: This project consists of a design and planning of a structural building and the irrigational system to serve the green surrounding areas.





Best Researcher Award

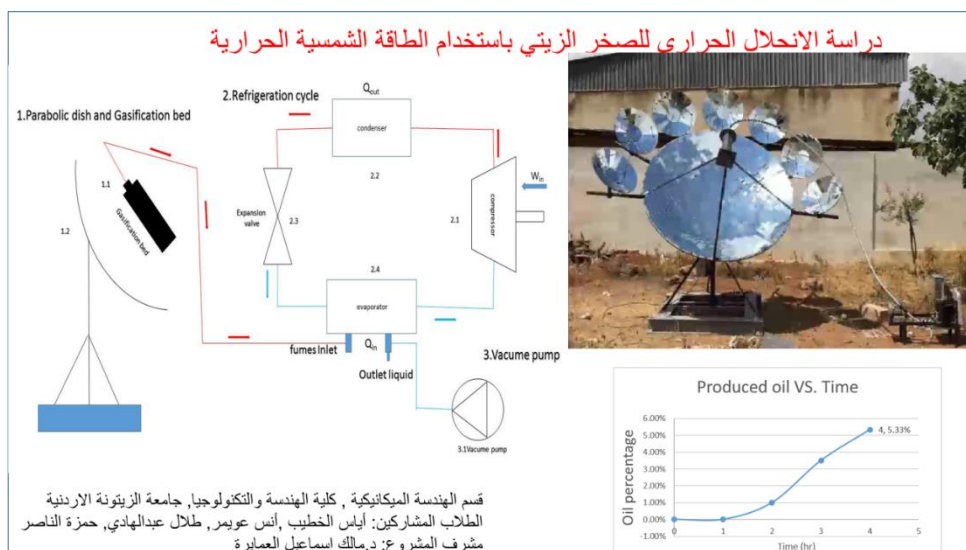
Al-Zaytoonah University of Jordan marks the 25th anniversary of its 1993 founding this year. A huge event was held to celebrate the anniversary; it contained a series of events planned that will highlight the University's intellectual contributions and historical achievements. During the celebration event, Dr. Yousef Jaradat an associate professor and chairman of the Electrical Engineering Department was honored as the best Researcher in the Faculty of Engineering for his quality research work.



Jordan Engineers Association (JEA) Graduation Projects Award

Dr. Malik Alamaireh and his students Talal AbdelHadi, Eyas Al-Khatib, Anas Oweimer and Hamza Nassar won the third prize winners of the 2017 Mechanical graduate award from the Jordan Engineers Association with their project “Oil Shale Pyrolysis Utilizing Solar Thermal Energy”.

Pyrolysis is the first step in gasification or combustion through a chemical decomposition of the organic (carbon-based) materials using a heating process. This project is oil shale pyrolysis process utilizing a solar parabolic dish reflector (PDR). The results compared oil shale pyrolysis occurring with air, water or kerosene. The conversion rate of the oil shale pyrolysis with the presence of air was maximum and around 6.8% (wt%) during 5 hours. For this case, the maximum temperature measured at the center of the gasification bed was 370oC. The oil shale pyrolysis process can increase the higher heating value HHV of the liquid oil shale six times higher than the HHV of raw oil shale. With the purpose of achieving a high absorbed solar radiation, one-dimensional tracking system considered in the PDR design. In addition, a cylindrical gasification bed made of carbon steel placed at the focal point of the solar dish to heat the raw oil shale. The resulted gas of the gasification bed condensed through a heat exchanger and a refrigeration cycle.





Congratulation FET !

We are proud that our engineering programs are now accredited by Federation of Arab Engineers (FAE). That's after a delegation from Federation of Arab Engineers visited the faculty of Engineering and Technology and the Faculty of Architecture and design. The delegate has also visited our laboratories and were delighted to see the modern lab equipment.



Opening Ceremony of Alternative Energy Technology Program



Prof. Turki Obeidat, Al-Zaytoonah University of Jordan president, has officially opened the department of Alternative Energy Technology in the faculty of Engineering and Technology on 8th of February 2018. Several distinguished guests attended the ceremony, some of whom was the secretary general of the Jordan Engineers Association, representatives of the Japanese Nikod organization, and representatives of a number of supporting companies.

During the ceremony, Prof. Obaidat signed six memorandums of understanding agreements with renewable energy companies in the presence of vice presidents, deans of the faculties, and a number of academic and administrative members. Those agreements will provide the department's students and faculty's with valuable engineering training opportunities.



Students' Union Election

Al-Zaytoonah University of Jordan students head to the polls to cast votes for the members of the Students' Union on Thursday, 26th of April. In the faculty of Engineering 11 candidates were running to win 5 seats.

The election process has gone smoothly, and by the afternoon of the Election Day, the result was announced and the names of the new of Students' Union were declared. And the names of the five candidates who got the highest numbers of votes: Laith Johar, Muatasem Alaqtash, Alaa Sherbaji, Abdelrahman Aldarabi and Zaid Manaseer.



Laith Johar



Muatasem Alaqtash



Alaa Sherbaji



Abdelrahman Aldarabi



Zaid Manaseer

Graduation Ceremony



Under the patronage of HE. Prof. Adel AlTwesi, The summer 2018 Graduation Ceremonies of Al-Zaytoonah University of Jordan was held on Thursday 12th July 2018, at the university stadium.



Industrial Advisory Board (IAB) and Student Advisory Board (SAB) Meeting



The faculty of Engineering and technology held its annual meeting with both the industrial and student board on Sunday, 15th July, 2018. In the meeting Prof. Wejdan Abu Elhaija, the vice president and the Dean of faculty of Engineering and technology, has introduce the students outcomes. And later both the industrial and student board discuss them with the faculty members.



FET Cultural Day

The social and cultural committee at the faculty of Engineering and Technology organized a literary and artistic activity for the faculty members and students under the patronage of Prof. Wejdan Abu El-Haija, Vice-President and Dean of the Faculty of Engineering and Technology, in which a number of poems were performed by some faculty members: Dr. Mousa Bani Baker and Eng. Mohammad Suhwail. In addition talented students Mohammad Khalkaf and Asem Mashaaleh presented their poems.



Also, a play was presented by students Saif Zeitoun, Ibrahim Al-Najjar and Motasim Al-qatash. The activity ended with a musical paragraph presented by student Hisham Al-Sui and his team members.



Dr. Raed Abendeh and Dr. Mousa Bani Baker were commissioned by the Dean of Engineering and Technology to conduct a workshop in Sufyan Mari auditorium for the faculty members and graduate students on the topic of ABET Criteria and its applications in Graduation Projects preparation. The lecturers explained all the chapters that should be included in the senior design project (capstone project), furthermore, they focused on many elements including design constraints, communication skills, ethical and professional responsibility. Faculty members and students interacted with the lecturers in a way that showed great interest in the subject.

FET Football Team Won the University League

FET football team won the Five-a-side football university League, after the last won against the faculty of business team.

